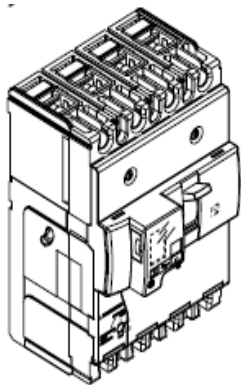


DPX³ 250 Electronic + earth leakage

Reference(s): 420 322/ 325/ 327/ 329/ 352/ 355/ 357/ 359/ 382/ 385/
387/ 389/ 655/ 657/ 658/ 659/ 422/ 425/ 427/ 429/ 452/ 455/ 457/ 459/
482/ 485/ 487/ 489/ 685/ 687/ 688/ 689



CONTENTS

	PAGES
1. USE	1
2. RANGE	1
3. DIMENSIONS	1
3. DIMENSIONS (NEXT)	2
4. ELECTRICAL AND MECHANICAL CHARACTERISTICS	3
5. CONFORMITY	3
6. MARKING	4
7. NAVIGATION	4
8. EQUIPMENTS AND ACCESSORIES	4
9. CURVES	6

1. USE

DPX³ "moulded case" offers optimal solutions to answer protection requirements of tertiary and industrial installations.

2. RANGE

DPX³ ELECTRONIC + EARTH LEAKAGE

In	25 kA	36 kA	50 kA	70 kA
(A)	4P	4P	4P	4P
40	420322	420352	420382	420655
100	420325	420355	420385	420657
160	420327	420357	420387	420658
250	420329	420359	420389	420659

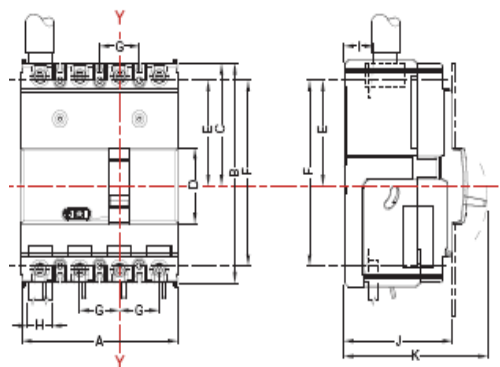
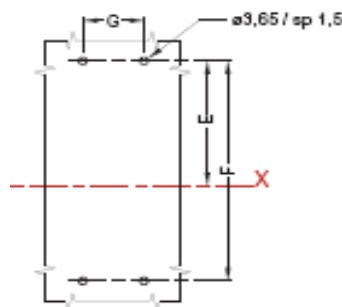
DPX³ ELECTRONIC + EARTH LEAKAGE + MEASURE

In	25 kA	36 kA	50 kA	70 kA
(A)	4P	4P	4P	4P
40	420422	420452	420482	420685
100	420425	420455	420485	420687
160	420427	420457	420487	420688
250	420429	420459	420489	420689

3. DIMENSIONS

3.1 Fixed version

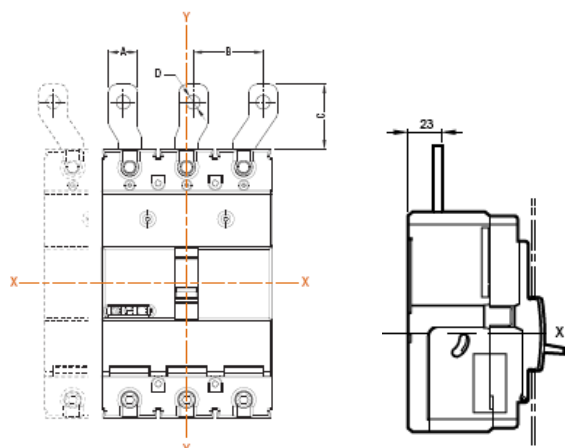
	A	B	C	D	E	F	G	H	I	J	K
250 DIFF	140	195	82,5	45	61,5	153	35	28,5	18	74	97



DPX³ 250 Electronic + earth leakage

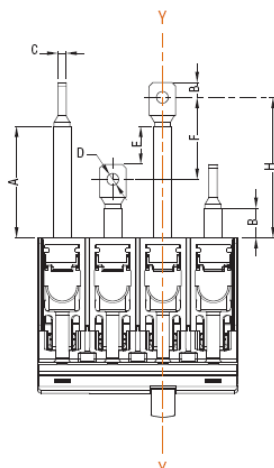
Reference(s): 420 322/ 325/ 327/ 329/ 352/ 355/ 357/ 359/ 382/ 385/ 387/ 389/ 655/ 657/ 658/ 659/ 422/ 425/ 427/ 429/ 452/ 455/ 457/ 459/ 482/ 485/ 487/ 489/ 685/ 687/ 688/ 689

3.2 Fixed version, front terminals

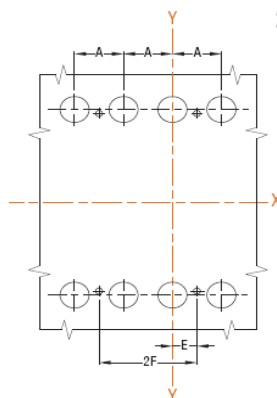


	A	B	C	D
250	33	48,5	54,75	13

3.3 Fixed version, rear terminals

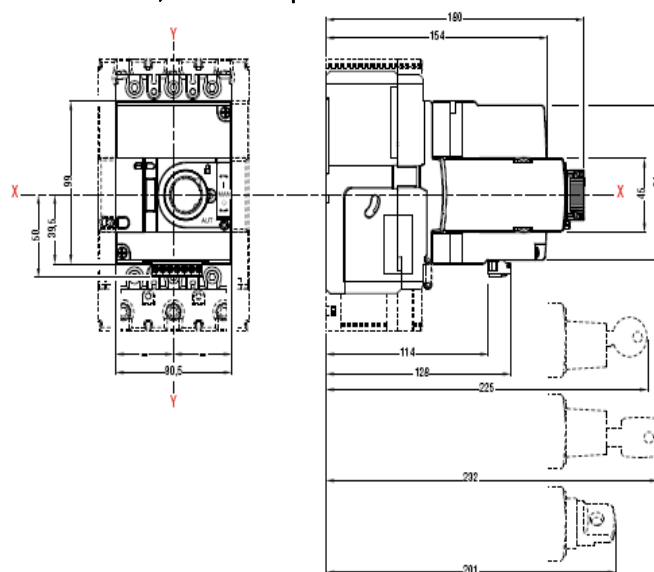


	A	B	C	D	E	F	G	H
250	66,5	22,5	6	8,4	15,5	44	15	80

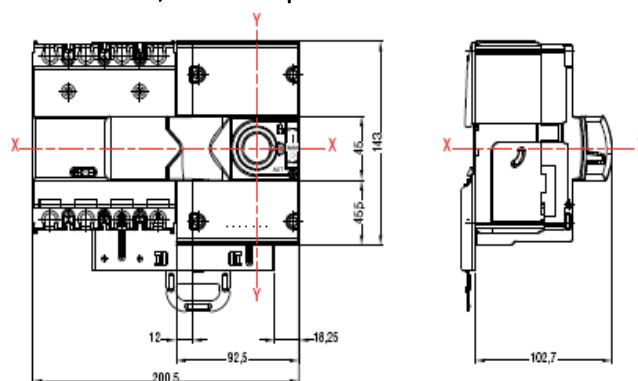


	A	B	C	D	E	F	G	H	I
250 DIFF	35	172,5	3,65	19	17,5	35	61,5	153	71,5

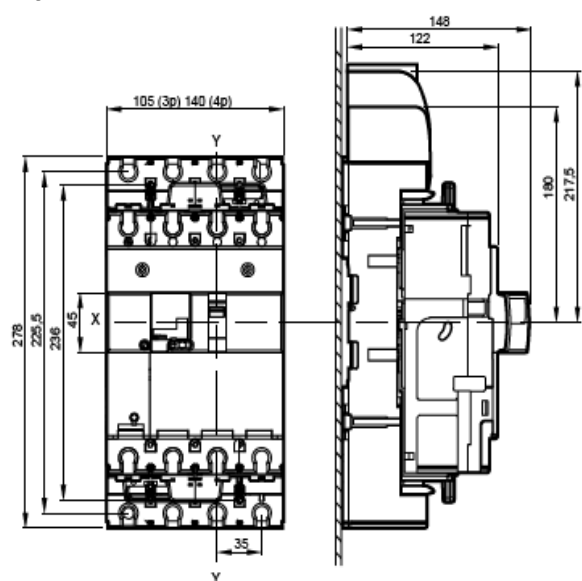
3.4 Fixed version, front motor operator



3.5 Fixed version, side motor operator



3.6 Plug-in version



DPX³ 250 Electronic + earth leakage

Reference(s): 420 322/ 325/ 327/ 329/ 352/ 355/ 357/ 359/ 382/ 385/ 387/ 389/ 655/ 657/ 658/ 659/ 422/ 425/ 427/ 429/ 452/ 455/ 457/ 459/ 482/ 485/ 487/ 489/ 685/ 687/ 688/ 689

4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

4.1 Breaker technical characteristics

Circuit breaker	DPX ³ 250
Rated current I _n (A)	40-250
Rated insulation voltage U _i (V)	500
Rated operational voltage U _e (V)	500 V (ac)
Rated impulse withstand voltage U _{imp} (kV)	6
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Utilization category	A
Releases type	Electronic+ earth leakage
Nominal frequency (Hz)	50-60
Thermal adjustment	0,4 ÷ 1 I _n
Magnetic threshold	1,5 ÷ 10 x I _r

4.2 Breaking capacity (KA)

Breaking capacity I _{cu} and I _{cs} in AC (kA)					
	U _e	25 kA	36 kA	50 kA	70 kA
I _{cu} (kA)	220/240V	40	60	80	100
	380/415V	25	36	50	70
	440V	20	30	40	60
	480/500V	10	25	30	40
	690V	8	16	18	20
I _{cs} (%I _{cu})	-	100	100	100	100

4.3 Derating temperature Ta (°C)

Influence of ambient temperature Ta(°C)				
In (A)	40	50	60	70
40	40	37	34	30
100	100	92	84	76
160	160	147	134	122
250	250	230	210	190

There is no derating below 40°C

4.4 Breaker power loss (W)

Power loss DPX ³ 250 ELE + earth leakage (W)				
In (A) ---->	40	100	160	250
Cage terminals	0,5	3,0	7,7	18,8
Lugs	0,5	3,0	7,7	18,8
External terminals	0,5	3,0	7,7	18,8
Spreaders	0,5	3,0	7,7	18,8
Rear terminals	0,5	3,0	7,7	18,8
Plugin version	0,8	5,0	12,8	31,3

4.5 Altitude

Altitude (m)				
	Altitude (m)	≤2000	3000	4000
DPX ³ 250	Rated current (A)	1 x I _n	0,96 x I _n	0,93 x I _n
	Rated voltage (V)	500	500	400

4.6 Loads operation

Loads operation	
Rated current (A)	I _n =250
Opening (N)	45
Closing (N)	78
Reset (N)	75

4.7 Measure

Current	phase and neutral	I1,I2,I3,I _N	Class I according to IEC 61557-12
	phases average	I _{avg}	Class I according to IEC 61557-12
	higher phase	I _{max}	Class I according to IEC 61557-12
	current unbalance	%I _{avg}	Class I according to IEC 61557-12
Voltage	Phase/phase	U12,U23, U31	0.50%
	Phase/neutral	V1N,V2N,V3N	0.50%
	phase/phase avg.	U _{avg}	0.50%
	Phase/neutral avg.	V _{avg}	0.50%
	Phases rotation	123,132	0.50%
Frequency	Electrical network	F	0.10%
Power	active	P _{tot} & for phase	Class II according to IEC 61557-12
	reactive	Q _{tot} & for phase	Class II according to IEC 61557-12
	apparent	R _{tot} & for phase	Class II according to IEC 61557-12

Energy	active	Last reset	Class II according to IEC 61557-12
	reactive	Last reset	Class II according to IEC 61557-12
	apparent	Last reset	Class II according to IEC 61557-12
THD	voltage	Pha./pha. & phase/neutral	Range 1 to 15°
	current	Phase/neutral	Range 1 to 15°

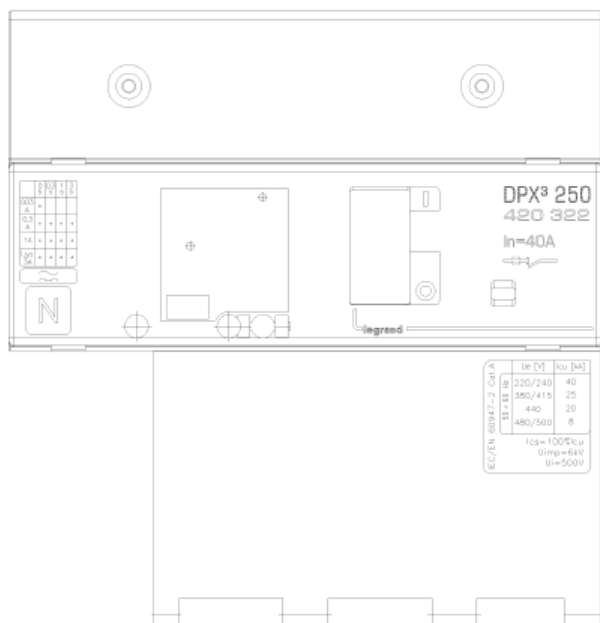
5.CONFORMITY

IEC 60947-2
EN 60947-2

DPX³ 250 Electronic + earth leakage

Reference(s): 420 322/ 325/ 327/ 329/ 352/ 355/ 357/ 359/ 382/ 385/ 387/ 389/ 655/ 657/ 658/ 659/ 422/ 425/ 427/ 429/ 452/ 455/ 457/ 459/ 482/ 485/ 487/ 489/ 685/ 687/ 688/ 689

6. MARKING



7. NAVIGATION

I_r	$0.4 \times I_n \div 1 \times I_n$
t_r	3 – 5 – 10 – 15 – MEM 3 – MEM 5 – MEM 10 – MEM 15
I_{sd}	1.5I _r – 2I _r – 2.5I _r – 3I _r – 4I _r – 5I _r – 6I _r – 7I _r – 8I _r – 9I _r – 10I _r
t_{sd}	0-100-200-300-400-500- $t_{\Delta t} = K 0 \dots 500$ ms
I_{Δn}	30 mA– 300 mA – 1A – 3A
Δt	0 – 300 ms – 1s – 3s
N	OFF – 50% – 100%
sel	Lo - Hi
I1	I L1 measured value present
I2	I L2 measured value present
I3	I L3 measured value present
IN	I N measured value present
IΔ	IΔ measured value present
MEN IΔn	Measured value of last intervention

8. EQUIPMENTS AND ACCESSORIES

8.1 Releases

- Shunt releases with voltage:

12 Vac/dc	ref. 421 012
24 Vac/dc	ref. 421 013
48 Vac/dc	ref. 421 014
110-130 Vac	ref. 421 015
200-277 Vac	ref. 421 016
380-480 Vac	ref. 421 017

- undervoltage releases with voltage:

12 Vac/dc	ref. 421 018
24 Vac/dc	ref. 421 019
48 Vac/dc	ref. 421 020
110 Vac	ref. 421 021
200-240 Vac	ref. 421 022
277 Vac	ref. 421 023
380-415 Vac	ref. 421 024
440-480 Vac	ref. 421 025

- auxiliary contact:

set of connectors for aux contacts	ref. 421 044
aux contacts and fault signal	ref. 421 011
aux contacts (1NC and 1 NO) for all rotary handles	ref. 421 010
inserted device signal	ref. 421 048

8.2 Rotary handles :

Direct:

- DPX³ direct rotary handle ele / earth leakage ref. 421 001
- DPX³ emergency direct rotary handle ele / earth leakage ref. 421 003

Vari-depht:

- DPX³ vari depth rotary handle ref. 421 004
- DPX³ emergency vari depth rotary handle ref. 421 005

Locking accessories

- locking acc. for direct rotary handle - ronis ref. 421 006
- locking acc. for direct rotary handle - profalux ref. 421 007
- locking acc. for vari depth rotary handle - ronis ref. 421 008
- locking acc. for vari depth rotary handle – profalux ref. 421 009

8.3 Mechanical accessories :

Insulated shields

- Set of 3 ref. 421 070

Sealable terminal shields

- sealable terminal shield for rear terminals 250 4P ref. 421 053
- sealable terminal shield for front spreaders 250 4P ref. 421 057

Padlocks

- DPX³ padlock accessory for handle (off) ref. 421 049

Interlock:

- DPX³ interlock mounting plate ref. 421 058
- DPX³ interlock for plug-in / draw-out version ref. 421 059

8.4 Connection's accessories :

Cage terminals

- cage terminals for al or cu cables kit (4) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 031

Front spreaders

- DPX³ front spreaders for 4P DPX³ 250 (4) ref. 421 035

Rear terminals

- DPX³ flat rear terminals for 4P DPX³ 250 (4) ref. 421 039

8.5 Plug-in version

Bases

- front/rear terminals plug-in base 4P DPX³ 250 ref. 421 043

Locking accessories

- locking accessory for plug-in base – ronis ref. 421 045
- locking accessory for plug-in base – profalux ref. 421 046
- padlock accessory for plug-in base ref. 421 047

8.6 Motor operator

- side motor operator 24-230 Vac - 24-230 Vdc ref. 421 060
- front motor operator 24-230 Vac - 24-230 Vdc ref. 421 061

Locking accessories for front motor operator:

- locking acc. for front motor operator - ronis ref. 421 062
- locking acc. for front motor operator – profalux ref. 421 063
- padlock selector for front motor operator ref. 421 064

Locking accessories for side motor operator:

- locking acc. for side motor operator - ronis ref. 421 065
- locking acc. for side motor operator – profalux ref. 421 066
- padlock selector for side motor operator ref. 421 067

Din plate:

- DPX³ din plate for motor operator DPX³ 250 ref. 421 069

8.7 Mounting on rail fixing plate

- DPX³ din rail fixing plate DPX³ 250 4P+earth leakage ref. 421 074

8.8 Communication interface

- DPX³ communication interface (Modbus) ref. 421 075

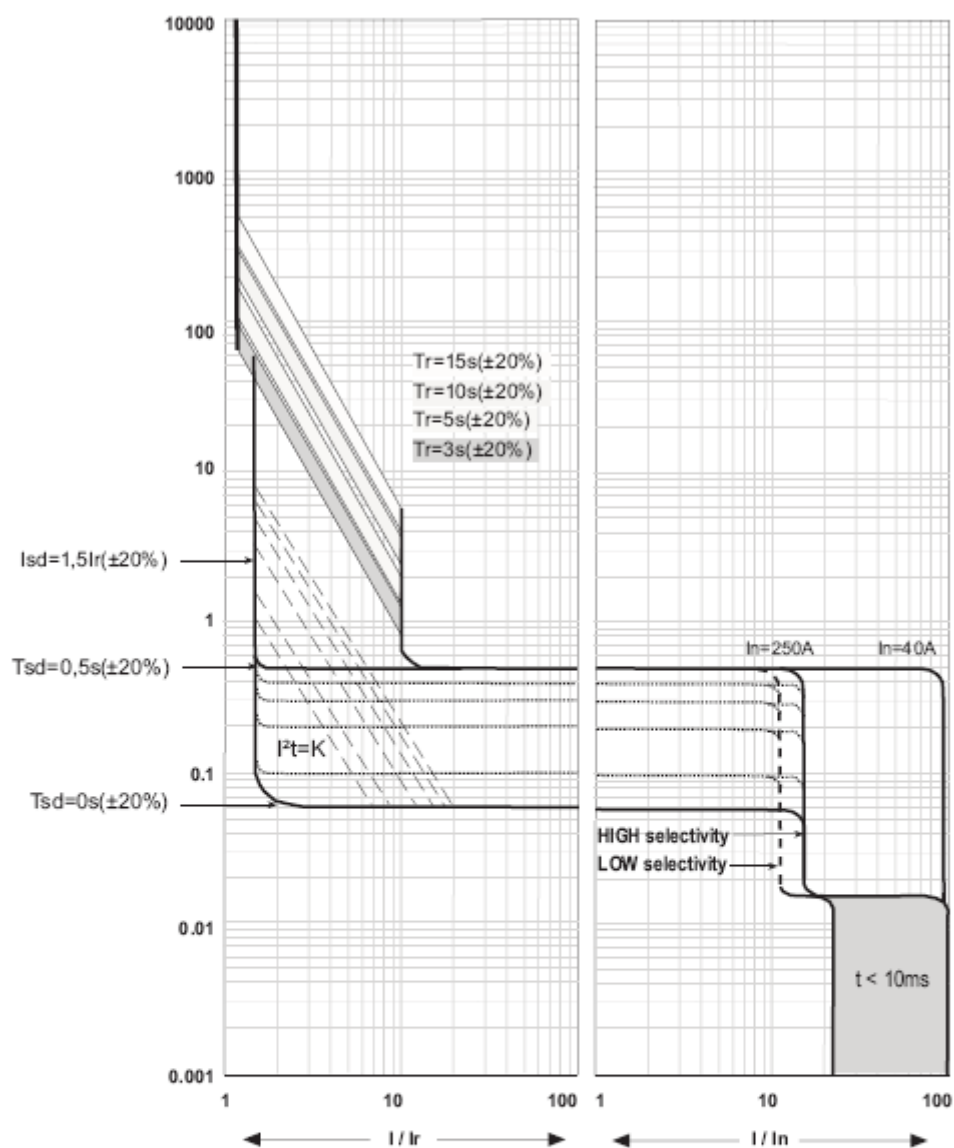
8.9 Supply

- Lithium battery CR1616 3V x 2 ref. 421 082
- External power supply 12V ref. 288 06

- Minimum current for electronic card supply : $0.2 \times I_n$
- Auxiliary supply by 421 075 (24 V ac/dc);

9. CURVES

9.1 TRIPPING CURVE



t = time

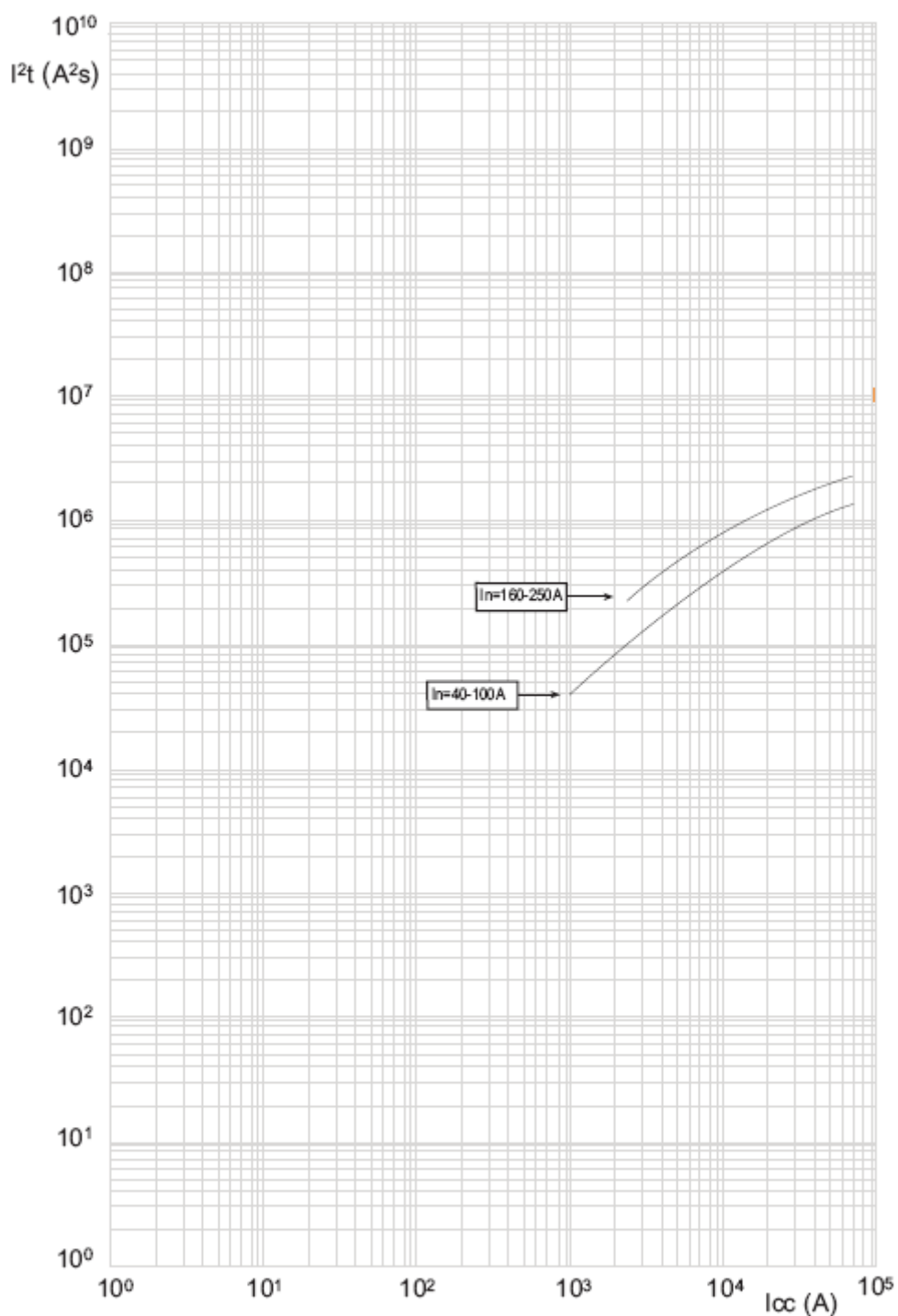
I = rated current □

I_r = setting current

curve number 1 = characteristic with cold start

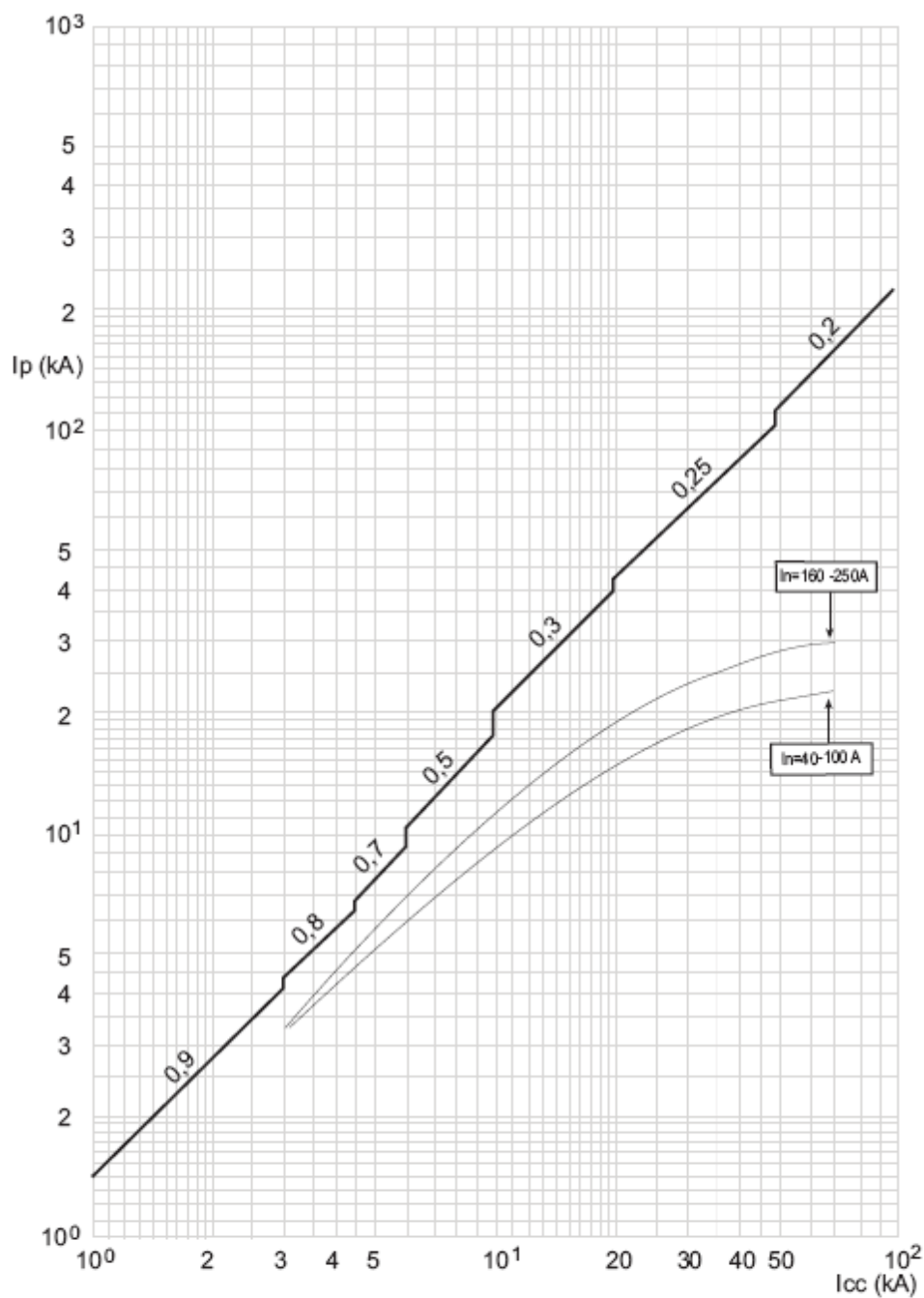
curve number 2 = characteristic with hot start

9.2 Energy curve



I_{cc} = estimated short circuit symmetrical current (RMS value)
 I^2t (A^2s) = pass-through specific energy

9.3 Restricted current curve



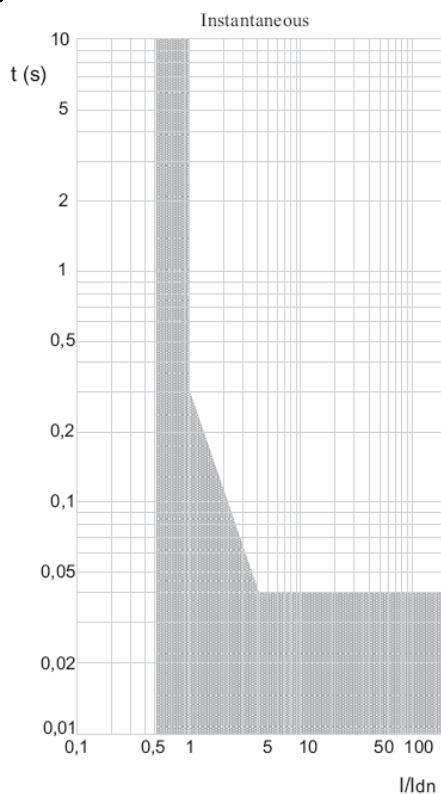
I_{cc} = estimated short circuit symmetrical current (RMS value)

I_p = maximum short circuit peak current

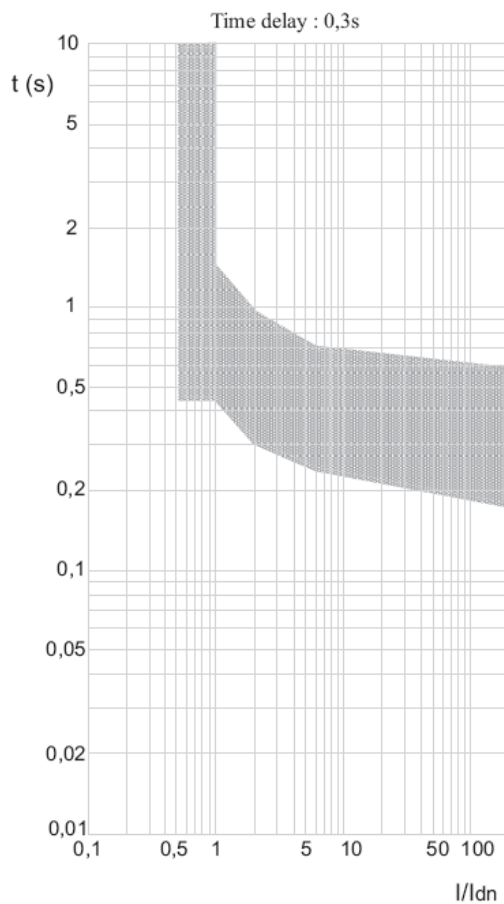
----- maximum prospective short circuit peak current
corresponding at the power factor

———— maximum real peak short circuit current

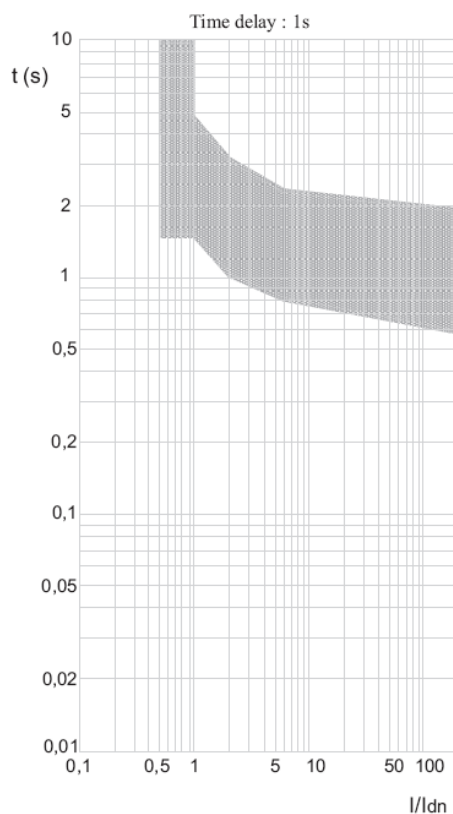
9.4.1 Earth leakage curve, instantaneous



9.4.2 Earth leakage curve, time delay = 0.3 s



9.4.3 Earth leakage curve, time delay = 1 s



9.4.4 Earth leakage curve, time delay = 3 s

